

According to the examiner, “[o]n page 2, in lines 35-38, the reference explains hydrating the polymer with a solution of water and inorganic salt. The suspension is then added to an aqueous brine.” The examiner noted that the inorganic salt used in the first step is described as being salts of calcium or zinc. The examiner concluded that the cited portions

represent applicant’s method. No substitution is required. This passage on page 2 is the teaching. Applicant’s reference to In re Brouwer is irrelevant as the statements of page 2 of the reference are not suppositions. It clearly states added (sic) water and inorganic salt (clearly defined) to the polymer for hydration. Brine is added afterwards to the suspension.

Response

The failure to point a teaching to use at least 0.5 lb/gal. polymer in the precursor polymer dispersion

The examiner has not pointed to a teaching or suggestion to add 0.5-4 pounds per gallon, much less 1-2 pounds per gallon, to **any** fluid in GB 2084586 to form a precursor polymer dispersion--whether water or brine. GB 2084586 teaches that

the amount of the hydrophilic polymer used in the method of the present invention will be such as to provide **a final concentration of from about 0.25 to 30 g per litre** regardless of whether the ultimate well servicing fluid comprises (a) the polymer/water suspension prepared by mixing the polymer, water, and the inorganic salt, or (b) the polymer, water, inorganic salt and an amount of an aqueous brine.

Page 2, ll. 46-49 (emphasis added). This quantity, 0.25-30 g per litre, is only 0.0021 - 0.16 pounds of polymer per gallon of liquid--much less than 0.5 lb/gal., which is the smallest quantity specified in claims 2, 3, 9, 14-15, 21-22, 26, 29-38, 40, 43-50, 53-56, 59, 60-65. The examiner therefore has not established a case of *prima facie* obviousness of at least claims 2, 3, 9, 14-15, 21-22, 26, 29-38, 40, 43-50, 53-56, 59, 60-65 over GB 2084586

The failure to point to the use of a brine as the initial contact solution for the polymer

Contrary to the examiner's position, the examiner has not pointed to a teaching in the GB reference to use a multivalent brine as an **initial contact solution** for a water-soluble polymers.

The examiner cites p. 2, ll. 35-38 of the GB reference as teaching the use of a brine as an initial contact solution. However, the cited lines clearly state that "the polymer, water and inorganic salt are mixed **as above** to hydrate the polymer and **form the polymer/water suspension**." (Emphasis added.) The only method described "**above**" involves **initially mixing the polymer with water**. In other words, the method described **above** uses water as an initial contact solution to form "a uniform dispersion of the polymer suspension in the water." Page 2, l. 12-13. The inorganic salt is added in "the next step of the method." Page 2, l. 14.

Initial contact of the water-soluble polymer with **water, alone**, does not achieve the claimed level of prehydration, which permits the precursor polymer dispersion to be added to a final brine to produce "final particles of said water-soluble polymer at a final level of hydration being effective at downhole conditions to maintain an effective level of a property of said final brine selected from the group consisting of rheology, fluid loss control, and a combination thereof." As evidenced by the testimony of Billy Chesser:

When fresh water or aqueous solutions of monovalent salts, such as sodium chloride, were used to prehydrate the claimed water-soluble polymers, and those polymers were added to a final brine and the final brine subjected to heat equivalent to temperatures that might be experienced downhole, those final brines tended to agglomerate and form a highly viscous mass with unsuitable rheology and filtration control properties.

Chesser Decl., ¶ 6. In contrast, when a sufficient quantity of the water-soluble polymer is initially contacted with a multivalent brine, as claimed, the polymer does not agglomerate or form such a

viscous mass upon exposure to downhole temperatures.

CONCLUSION

For all of the foregoing reasons, Applicant respectfully requests entry of the amendments and reconsideration and allowance of all of the pending claims. If the examiner disagrees, or if any administrative matters remain, Applicant respectfully requests that the examiner telephone the undersigned to discuss the matter.

Respectfully submitted,

A handwritten signature in cursive script, reading "Paula Morris", is written over a horizontal line.

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